

Dear QTS:

I have received 3 issues (Winter, Spring, Summer) of QuarTerS and every issue has been full of helpful articles, great software reviews and new product information. Thanks for publishing a needed magazine for TS computer owners and for keeping it easy to read and understand. I have read other TS computer magazines, but none have been as helpful to me as QuarTerS.

I'm also interested in knowing what brand of printer was used to print the Summers issue of QuarTerS. It was so clear and easy to read. I'm hoping to buy a letter-quality printer within the next year to use with my TS2068.

I read a recent letter in QuarTerS from a Nevada TS computer user who encouraged the use of a modem. I'm just a beginner at using computers, could you explain exactly what a modem can offer and how it works? Is a modem difficult to use? Are there any risks? Like tapping into other computers by mistake? Can the modem be connected to the TS2068 at the same time as the 2020 recorder and 2040 printer?

Also, do you know of any software dealer that sells the S. C. A. M. accounting program with Accounts Payable, Accounts Receivable, Payroll and Merchandise Inventory. I tried to order it from T. E. J. Computer Products in Los Angeles and after waiting 8 weeks, I wrote and they returned my money. I do accounting/tax work and freelance writing and hope to use my computer system more frequently. By the way, I also found the Textwriter 2000 word processing program a very good product and easy to use.

Any advice or assistance I receive will be appreciated. I'm really glad I subscribed to QuarTerS.

Sincerely,

Carolyn Bower
Wooster, OH

Dear Carolyn:

I would like to thank you very much for the compliments on QuarTerS. I have put in a lot of time on QTS and the response has been very positive, which makes me very happy.

The printer that we are using for QTS is a JUKI 6000 daisywheel printer. This printer has been used a lot in the past four months and has so far given us no problems. The printer is very inexpensive at about \$200. There is also a model that comes with a typewriter keyboard built right on. This model can be used as a typewriter or as a computer printer.

There are some limitations to a daisywheel printer. One is speed, they are very slow in comparison to dot matrix printers. The JUKI 6000 does about 12 characters per second. Another limitation is that it will not print special characters, such as graphics. There are many good dot matrix printers on the market that produce very near letter quality print and overcome the limitations of a daisywheel.

Your questions about the modem have inspired me to write an article which appears in this issue. Thanks for the ideas!

The S. C. A. M. accounting package is available through RAMEX International, 48945 Van Dyke. Utica, MI 48087. I found this through the use of the D. Lipinski Buyers Guide and should be correct. Write to RAMEX first and make sure that they have it in stock.

I hoped that the above has helped you.

Sincerely,

Bill Johnson

Dear QTS:

I see that my subscription to QTS will end with the Fall issue. I am sending in my renewal check for \$8.00, don't want to miss any issues!

I have a TS1000, with a TS2020 player/recorder and a TS2040 printer. I was thinking of upgrading to a 2068/Spectrum but have so much software that can't be used on 2068. So I wait a little longer to load programs. Have lots of time, I'm retired!

I am looking for a NUMEROLOGICAL READING software for above, perhaps you can mention this in QTS. I would like a complete reading.

Thank you & all the best for the future!

Bill Blau
11375 Picture Rock Road
Tucson, AZ

Dear QTS:

I have two questions about TS2068 BASIC I'm hoping you can answer.

The first concerns the VAL\$ function. What does this function do and what is its syntax? When I've experimented with this function, I've either gotten a syntax error or a "Nonsense in BASIC" error message.

My second question concerns the DEF FN statement. The manual says that this function may have string arguments or results but when I tried to define a string function I got a syntax error. What can you tell me about this and about DEF FN in general?

Congratulations on your informative magazine. Keep up the good work!

Sincerely,

Paul Meyer
Oshkosh, WI

Dear Paul:

I hope that I can help you. You have asked some good questions.

I will attack your second question first. With DEF FN you can define your own mathematic and string functions which can be called up with the FN command latter in your program.

An example, say you want to multiply a number by PI, you would use: PRINT (x*PI). Now you may want to do this many times throughout the program and not want to type it in every time. You can type in: DEF FN s(x)=(x*PI). When you want the formular performed type in: PRINT FN s(10). The computer will now apply the formular to the number 10. The number 10 is substituted for "x". Here's how it would look in a program.

```
10 DEF FN s(x)=(x*PI)
20 PRINT FN s(10)
```

Now this is a very simple example of DEF FN and FN. As you can see if you have very complex formulas it can come in very handy.

You can also define string functions. Say you want to read only the first two characters of a string you could do the following:

```
10 DEF FN a$(s$)=s$(1)+s$(2)
20 LET x$="QuarTerS"
30 LET y$=FN a$(x$)
40 PRINT y$
```

As for your first question on VAL\$ I am not familiar with the command. I have never used it in a program and could not get it to work no matter how I tried. I came up with the same error codes as you did. Perhaps one of our QTS readers can tell us more about this function. Hopefully I can get something about this mysterious command by the next issue.

Thanks for the compliments on QTS and the good work will continue for a long time to come.

Telecommunications

by Bill Johnson

This column is a new feature which will appear from now on in QuarTerS. What is telecommunications? It is the interaction of two or more computers by the use of telephone lines. Normally a computer user connects with a large data base or a Bulletin Board Service (BBS) by using a device called a modem.

Currently there are two modems specifically for the Timex/Sinclair line of computers:

1. Westridge TS2050: for the TS1000, TS1500, ZX81 all with 16K and for the TS2068.
2. Byte-Back Modem: versions for the TS1000, TS1500 and ZX81 all with 16K and for the TS2068.

I have used only the Westridge modem and have found it easy to use and an all around excellent product, QTS will have a full review of the TS2050 in the next issue. I have not tried the Byte-Back modem but have heard it is also good. Perhaps a reader can provide us with a review of the Byte-Back. Both modems come with all cables and software needed to make them work. I was up and running with the Westridge modem in less than 10 minutes.

The modem plugs into your computer in the same manner as a printer. When the modem is being used a printer can also be used since the modem uses a piggyback connector.

Connecting to an outside computer can be exciting and very useful. Large data bases, such as Compuserve or The Source, contain hundreds of services to choose from. Including upto date stock information, shopping at home, news services, games, programs...oops, even information on the T/S's. Compuserve and The Source can be subscribed to through information usually included with your modem or through most Radio Shacks or computer stores.

If you subscribe to Compuserve you can enter the Timex/Sinclair club by typing GO FAM at any ! prompt. Family Computing magazine has given space to T/S computer users. Once you enter Family Computing become a member in the club and enter subsection 4, the T/S computer club.

There are thousands of BBS's throughout the country. A BBS as the name implies is a bulletin board were people post messages and news. Most BBS's are usually specific to a type of computer or subject. Here are some BBS's that are specific to T/S's or have T/S sections:

Time==<X>==Change (213)329-3922. 24 hours a day. Contains public domain programs for the taking.

Zebra Systems (718)296-2229. 5pm-9pm(mon-fri) 24 hours(sat, sun & holidays).

Anytown, USA (302)734-0179

Micro Systems (305)737-1590

Serial & Port (313)286-0145

If you know of other T/S specific BBS's that are operating or of any BBS that you enjoy please write and let QTS know or leave QTS a message via EasyPlex on Compuserve our number is 72527,3514.

QTS

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**REVIEW: AERCO FD-68 Floppy Disc
Interface for the TS2068**
by John Barry

DESCRIPTION: Floppy disc controller
for 1 to 4 (3 to 8 inch) Shugart
compatible disc drives.

MANUFACTURER:
ACME ELECTRIC ROBOT CO. (AERCO)
Box 18093
Austin, TX 78760
(512)385-7405

AVAILABLE: Directly through AERCO and
from some hardware dealers.

REQUIREMENTS: TS2068 and any Shugart
compatible disk drive.

RETAIL PRICE: \$199.

As an owner of the AERCO Disk
Interface for my TS1000, it was only
a matter of time before I purchased
an interface for my TS2068.

Features of the system are:

-64K of additional RAM for a total of
112K RAM (can be expanded to 256K).

-8K of ROM for Disc Operation System
(DOS) on an EPROM.

-RGB output available, cable is
extra.

-Fully compatible with TS1000 disc
drives and power supply.

-CP/M disk to be released shortly.

After the experience of the exposed
board on my TS1000 system, the board
for this system is extremely clean.
Only 4 x 5 1/2 inches in size. When
plugged into the TS2068 expansion
port a solid gray plastic backing is
all that is visible, except for the
cable connecting to the right side.
There is also an expansion on the
rear to attach your AERCO Centronics
Interface.

The system is self-booting when
turning on your system. One minor
flaw is that the disk "A" motor runs
continuously when the computer is

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turned off. The simple solution was
to plug all the systems into a single
protected multi-outlet.

After booting, a screen with a
British flag and logo appears,
offering 3 choices: 1-operating
instructions. 2-serial/parallel
drivers. 3-directory of programs on
the disk. Selection of the directory
will display the disk ID, directory,
and the number of K remaining on that
disk.

There are four keyboard commands used
with the system:

CAT: The equivalent of LOAD in
Basic.

MOVE: The equivalent of SAVE in
Basic.

ERASE: Removes a file from the disk.
The directory will increase the
memory available by the size of the
file erased.

FORMAT: Used to prepare the disk for

use. This command includes a warning if there is already data on the disk, giving the operator a chance to stop the function.

Initially my system would not boot, although I could SAVE and Recover Basic programs. Since I had purchased it through 21st Century, I called and shortly there-after a new ROM chip arrived. It seems that the 8 ms. speed was not compatible with my DEC system, but the 30 ms. chip fixed that.

Another problem I had was with documentation. The initial manual was poor. It should be pointed out that I received one of the first production run models, and the new manual is outstanding. It explains everything from setting up the system to trouble-shooting common problems. In the back there is a detailed set of schematics and assembly drawings with a theory of operations for those of you who can understand it all.

Since I am not a Hacker, the direct connection of the system to the drives was a blessing. The simple entry and recovery commands make this a truly user friendly system. Now I dream of "Wordstar" and "dbase II" in CP/M when I think of software. Maybe the CP/M will be ready by Christmas.

QTS

PROGRAM: Biorythm by Chuck Dawson Intro by Bill Johnson

Here is a short program that was written on a TS1000 with no memory added. It can also be used on the TS2068. It has some interesting features.

Line 20 POKE 16513,234: this line changes the SAVE command to a REM after the program is SAVED using the RUN command. On the TS2068 try POKE 26714,234.

Line 30 LET L=NOT PI: this always give you 0.

```

10 SAVE "BIORHYTHM"
20 POKE 16513,234
30 LET L=NOT PI
40 PRINT TAB 18;"M /D /Y"
50 PRINT "ENTER BIRTHDATE"
60 GOTO 160
70 INPUT M
80 IF M>12 THEN GOTO 70
90 PRINT "
M)"/"
100 INPUT D
110 IF D>31 THEN GOTO 100
120 PRINT D;"/"
130 INPUT Y
140 PRINT Y
150 RETURN
160 GOSUB 70
170 LET N=M
180 LET E=D
190 LET X=Y
200 PRINT AT 6,NOT PI;"ENTER TO
DAYS DATE"
210 GOSUB 70
220 IF Y<X THEN LET Y=Y+100
230 FOR I=X TO Y-5GN PI
240 LET L=L+365
250 IF INT (I/100)*100=I THEN I
F INT (I/400)*400<I THEN GOTO 27
0
260 IF INT (I/4)*4=I THEN LET L
=L+5GN PI
270 NEXT I
280 IF Y=X THEN LET L=365-L
290 IF INT (X/100)*100=X THEN I
F INT (X/400)*400<X THEN GOTO 31
0
300 IF INT (X/4)*4=X THEN IF N>
2 THEN LET L=L-5GN PI
310 IF INT (Y/100)*100=Y THEN I
F INT (Y/400)*400<Y THEN GOTO 33
0
320 IF INT (Y/4)*4=Y THEN IF M>
2 THEN LET L=L+1
330 LET L=L-Z(N)-E
340 LET L=L+Z(M)+D
350 IF Y=X THEN LET L=L-365
360 LET E=L/28-INT (L/28)
370 LET Y=L/23-INT (L/23)
380 LET I=L/33-INT (L/33)
390 CLS
400 FOR N=NOT PI TO 63
410 PLOT N,22+20*SIN (N/32*PI)
420 PLOT N,21
430 NEXT N
440 LET N=N/6
450 PRINT AT 3IN (E*(PI+PI))*N-
N,E*32;"E";AT 3IN (Y*(PI+PI))*N-
N,Y*32;"Y";AT 3IN (I*(PI+PI))*N-
N,I*32;"I"

```

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SELECTIVE SCREEN\$ LINE COPY

by Martin DeBoniface

In the Winter-85 issue of QuarTerS Bill Johnson enlightened us with a TS2068 program to COPY a screen without using the COPY command. The advantage being selected lines could be specified to COPY instead of the entire screen. His program used the SCREEN\$ function as the heart of the routine.

Although it worked, the SCREEN\$ function has some disadvantages. Most notably it cannot print user defined graphics (UDG's). Both user defined and Sinclair UDG's are not recognized by the SCREEN\$ function. Which led Mr. Johnson to propose his readers to submit various programs that would determine printable SCREEN\$ characters. Below is a short subroutine which takes care of everything.

This program selectively COPYs each and every speck you care to PLOT, line by line. Any number of lines may be COPYed from the screen to the printer. I call it:

"Selective SCREEN\$ Line Copy"

The heart of the program utilizes the POINT function for precise pixel identification. Rather than use a bit mapped transfer algorithm I chose four nested loops. Sinclair's screen layout is rather tedious and an understanding of the bit transfer technique is easier to grasp using four nested loops.

Line 130. The outer most loop controls which lines we want sent to the printer.

Line 140. This loop sends a 32 character line, as selected by the outer most loop, to the printer.

Line 160. This loop controls which of the eight pixel rows within a given character will be equivalenced to a decimal number.

Line 180. The inner most loop takes a row of eight pixels, within a

character, and calculates the equivalent decimal value. This decimal number is then POKEd into UDG A.

Line 210. UDG A is transfered to variable a\$ to be LPRINTed in line 220.

The only complaint which a user might have with this subroutine is its speed of execution. For each specific line you want COPYed from the screen to the printer a delay of 48 seconds is in order. This is caused by the fact that the printer cannot LPRINT one character at a time. Consequently it must LPRINT an entire line at a time. In turn this can only be done if the printer buffer is full. Hence, the delay.

```
30 REM Test Routine
40 CLS
50 FOR i=97 TO 118
60 FOR j=BIN TO 31
70 PRINT CHR$ i;
80 NEXT j: NEXT i
90 GO SUB 100: STOP
100 REM Selective COPY Routine
110 INPUT AT 0,0;"Enter First L
INE TO COPY ";first;"Enter Last
LINE TO COPY ";last
120 IF first<0 OR last >21 THEN
    RUN 100
130 FOR v=first TO last
140 FOR h=BIN TO 255 STEP 8
150 LET top=175-(v * 8)
160 FOR r=top TO top-7 STEP -1
170 LET b=BIN
180 FOR c=h TO h+7
190 LET b=b* 2+(POINT (c,r)<>0)
200 NEXT c: POKE USR "b"+top-r,
b
210 NEXT r: LET a$="b"
220 LPRINT a$;
230 NEXT h
240 NEXT v
250 RETURN
```

EDITOR'S NOTE: Enter RUN and the screen will fill up with the letters 'a' to 'v'. To use the Selective COPY routine use GOTO 100. Lines 100 to 250 can be placed in any program.

QTS

REVIEW: Lost in Space
by Peter Stawasz

MANUFACTURER:

JPR SOFTWARE
PO Box 4155
Winter Park, FL 32793
1-305-2731126

REQUIREMENTS: ZX81/TS1000 16K

PRICE: \$10.00

It seems that you are the commander of an experimental space ship that is invisible to enemy ships' detection.

On your first voyage your ship experiences an electrical fire which cripples the main engine, laser, and autopilot controls. Leaving you with only 30 pounds of fuel to operate with. The only controls that are functioning are your right and left auxiliary thrusters.

And if this were not bad enough your ship has drifted into a meteor field that has been long suspected of harboring patrolling enemy ships. Your objective is to use your remaining fuel wisely to dodge meteors and enemy ships until you reach allied ships to refuel and continue your journey...you are LOST IN SPACE!

The cassette comes packaged with an illustrated instruction booklet that carries tactical hints which the user would find necessary if they wish to reach the allied fuel ships. The booklet also shows how to land on the fuel ships, the safe distances to stay away from the meteors and enemy ships, and explains the scoring system for particular "waves" of enemy ships and meteors (a nice feature).

Other features which make the game worthwhile include: wraparound warping (the ability of your ship to move from one side of the screen to the other), on screen prompts that warn you of approaching ships or tell you of approaching fuel ships, and a short period feature of being able to move twice as far per move per pound of fuel as long as enemy ships are on the screen.

The program auto-runs and immediately displays the title screen which then switches to the game screen consisting of a gridwork board, the beginning status screen display (remaining fuel and score) and your ship with the screen scrolling from bottom to top. The meteors and enemy ships start out as small, but as the game progresses, get larger and harder to dodge. Movement either left ("5" key) or right ("8" key) costs you one pound of fuel; press the 0 key to get the status of you fuel and score at any time during the game.

My only complaint against the program is that once your ship reaches the fuel ships you can only land on one. If you try to land on another you explode. Overlooking this fault the game is a good value and a nice change from the shoot'em up games.

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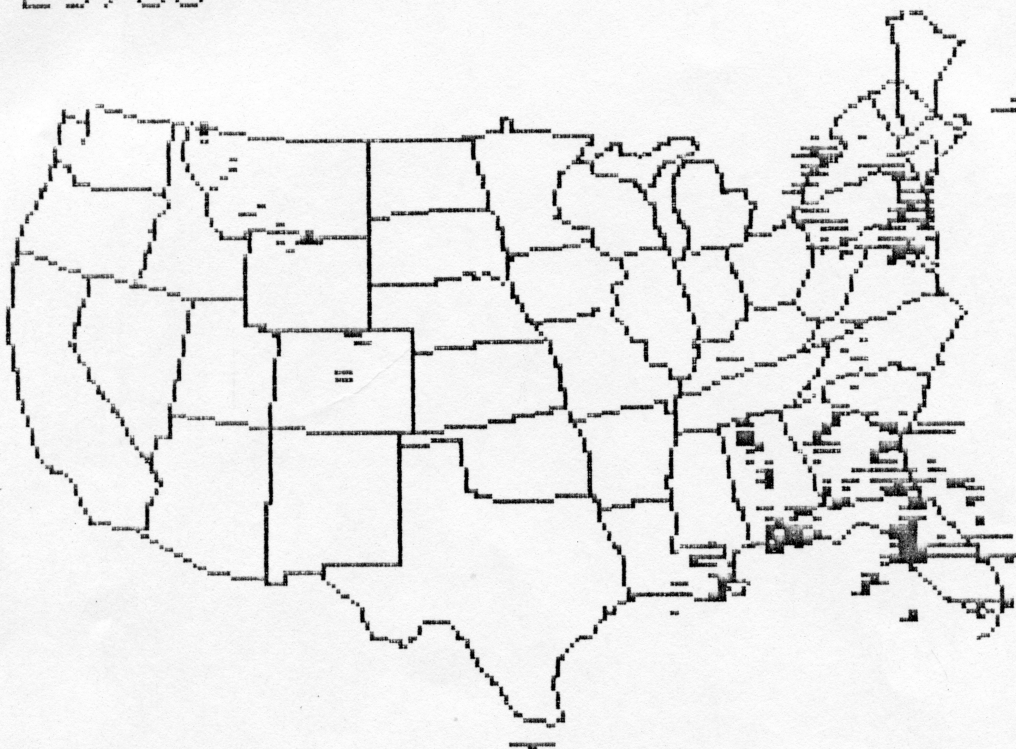
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06/29/85

The map above shows thunderstorms reported by the National Weather Service. It was created by the TS2068 from data transmitted by CompuServe using the 2050 Modem and Smartterm II software. To do this yourself, type in the program at right and SAVE to tape. Next, load the Smartterm II and set up an unused MacroKey with the following: GO AWX4;''''''''TS2068,GH,GM; Now, call up CompuServe and at any ! prompt, push the Macrokey. The menus are easy to follow. When you get to the question as to whether you want the whole U.S. or one of several sections of the country, don't answer until you clear the buffer and open it with conversion NONE. Now go back and answer the question (I always go for the whole U.S. which is '1'). Just watch the characters as they come in and when you get a BELL, close the buffer. After signing off, MERGE the program SAVED earlier and GOTO 1.

```

10 INPUT "Date? ";d$
15 CLS: LET a=27300
20 IF PEEK (a-1)=71 AND PEEK a
=72 THEN LET r=1: GO TO 40
25 IF PEEK (a-1)=71 AND PEEK a
=77 THEN LET r=2: GO TO 40
30 LET a=a+1: GO TO 20
40 LET col=-1: LET lin=175
50 LET a=a+1: IFPEEK a=7 THEN
GO TO 170
60 LET col=col+(PEEK a-32)
70 IF col>=(256/r) THEN LET co
l=col-(256/r): LET lin=lin-1
80 LET a=a+1: IF PEEK a=7 THEN
GO TO 170
90 LET n=PEEK a-32
100 IF n=0 THEN GO TO 50
110 FOR j=1 TO n: LET col=col+1
120 IF col=(256/r) THEN LET col
=0: LET lin=lin-1
130 PLOT col,lin
140 NEXT j
150 IF lin>=0 THEN GO TO 50
160 PRINT AT 1,0;d$: STOP

```

QTS

ATTRIBUTES & PRINT POSITION

In the last issue we discussed the limitations of SCREEN\$ in detecting and/or recognizing the presence of a character in the PRINT POSITION. We further defined PRINT POSITION as that block on the 32 X 24 grid of the screen where the very next character will be printed. PRINT POSITION is an important concept in many game programs written in BASIC.

We introduced a short program called FOUR-DIRECTION MOVEMENT to demonstrate how SCREEN\$ could be used to detect the presence of various characters occupying, or not occupying, the position. As we found SCREEN\$ cannot recognize all characters, we will embark on a course introducing other methods that will. No one of these methods covers all situations, but collectively they virtually do.

The second of these methods of PRINT POSITION detection that we will explore uses the ATTRIBUTES. So instead of looking for a target identified by a character code or symbol, we will look for one identified by its ATTRIBUTES.

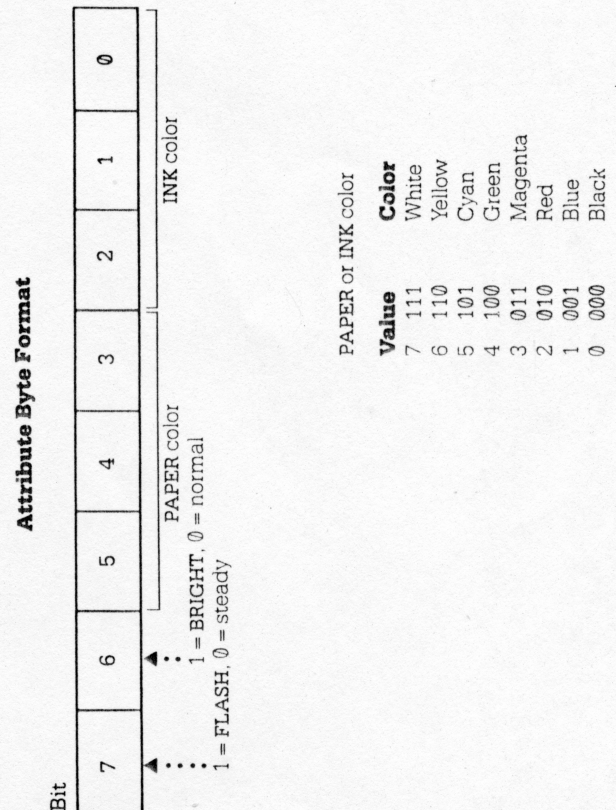
```

2 INPUT P
4 FOR n=1 TO 35
6 PRINT AT 21*AND,31*AND; PAP
ER P; " "
8 NEXT n
10 LET L=10: LET C=15
30 LET LL=L: LET CC=C
40 LET L=L+(INKEY$="6" AND L<2
1)-(INKEY$="7" AND L>0)
50 LET C=C+(INKEY$="8" AND C<3
1)-(INKEY$="5" AND C>0)
60 PRINT AT L,C;
70 IF ATTR (L,C)=3*P+0 THEN BE
EP .05,25
80 PRINT "■"
90 PRINT AT LL,CC;" " AND (LL<
>L OR CC<>C)
100 GO TO 30

```

FIGURE 1

Before we go further, a short review of the ATTRIBUTES may be in order. Each of the 32 X 24 blocks of the screen is assigned an address from 22528 to 23295, inclusive. Each address is an 8-bit byte of memory that can hold a value from 0 to 255. These values in turn can completely describe the ATTRIBute value of the block. We show this relationship in the following diagram:



We can summarize all of this by a formula that yields the ATTR value:

$$\text{ATTR Value} = 128(\text{FLASH}) + 64(\text{BRIGHT}) + 8(\text{PAPER}) + (\text{INK})$$

The first two terms usually do not enter into print position determinations and can be considered to be OFF or 0 for our present purpose. This reduces the formula to:

$$\text{ATTR Value} = 8(\text{PAPER}) + (\text{INK})$$

Or, as we might use the formula in a

BASIC routine, to:

ATTR (L,C) = 8 + i

Let's consider targets made up in PAPER color only. INK would have a default value of 0, which is BLACK. We can next revise our demonstration routine to look like FIGURE 1. Only three lines of the program are involved. Line 2 requests INPUT of the PAPER color of the target. Line 6 prints the randomly located targets in the designated color. Line 70 now looks at the ATTR value of the PRINT POSITION and takes action accordingly. RUN the program. For INPUT enter some PAPER color that can be seen well against the normal WHITE of the screen, say any value from 1, BLUE, to 6, YELLOW. Move the puck about as before and it now responds to the ATTR value of the PAPER color.

We can have the entire screen in full color, and have the target made up of unique PAPER and INK colors. Such a program is shown in FIGURE 2. Compare the two programs line for line. Line 1 is an addition. It adds complete color to the screen. Line 2 adds an INPUT for INK. This is the target INK. Line 6 introduces a character for the target, versus a colored space alone. Line 70 now contains variables for both PAPER and INK colors. RUN the program and for INPUT of the colors, use 4 or 5 for PAPER and 1 or 2 for INK. Any values can be used but some combinations do not have enough contrast to see well.

PRINT POSITION determined by the use of ATTRIBUTES is perhaps the most versatile of all the methods available on the TS2068. Note that we could have used any character in the routine of figure 2 for a target, even a User Defined Graphic or chunky graphic.

ATTRIBUTES also combine very well with the CODE of characters and the combination allows for some fancy detection. For example, consider a line reading:

```
1 BORDER 1: PAPER 6: INK 2: C
L5
2 INPUT P: INPUT I
4 FOR N=1 TO 35
6 PRINT AT 21*AND,31*AND; PAP
ER P; INK I;"0"
8 NEXT N
10 LET L=10: LET C=15
30 LET LL=L: LET CC=C
40 LET L=L+(INKEY$="6" AND L<2
1)-(INKEY$="7" AND L>0)
50 LET C=C+(INKEY$="8" AND C<3
1)-(INKEY$="5" AND C>0)
60 PRINT AT L,C;
70 IF ATTR (L,C)=3*p+i THEN BE
EP .05,25
80 PRINT "8"
90 PRINT AT LL,CC;" " AND (LL<
>L OR CC<>C)
100 GO TO 30
```

FIGURE 2

```
70 IF ATTR (L,C) = 34 AND CODE
SCREEN$ (L,C) = 79 THEN...
```

Doesn't this make the creative juices flow?

ATTRIBUTES ADDRESSES

For those who expect to do much work with the ATTRIBUTES, the following relationships may be useful:

$$A = 22528 + 32*L + C$$

And the converse:

$$L = \text{INT}((A - 22528)/32)$$
$$C = A - (32*L + 22528)$$

Given here in the BASIC terminology where L is the screen line number and C is the column.

If you have any questions or want a specific discussed in a future column please write Warren C/O of WMJ Data Systems.

QTS

REVIEW: TS1000 Speech Synthesizer
by Peter Stawasz

DESCRIPTION: Software based speech synthesis libraries, 2K demonstration, biorythm prediction program.

MANUFACTURER:
TAD PAINTER
PO Box 166055
Irving, TX 75016

AVAILABILITY: Directly from Tad Painter or through many software dealers.

REQUIREMENTS: ZX81, TS1000; with 16K; TS1500.

SUGGESTED RETAIL: \$16.95

Finally, a speech synthesis program has come of age for us TS1000 users. It is also easy to use and affordable.

The speech synthesis package consists of a 2K demonstration, which speaks "I am your computer" in repetition, a biorythm prediction program which also speaks your age based on your birthdate and the day's date (heaven help those who are age conscious) and the actual speech libraries that are able to say anything from "zero" to "you" and anything between.

To make your TS1000 speak simply load a library and either GOSUB 3000, to hear the entire library, or LET NO=, for a particular word--its that easy!

Actual speech is quite clear and for those with a flair for the mechanical it speaks somewhat similar to the WIZARD OF WOR arcade game.

Applications include limited speech games, etc. When I mention limited I refer to the annoying limitation of being able only to speak any of the words in a particular library you have in memory. This limiting factor severely limits the usefulness of the program package. You cannot yet customize your own personalized library to speak in complete

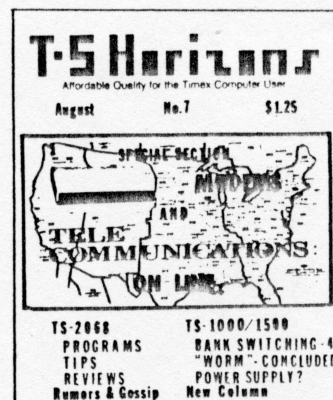
sentences. Compiling programs are to be available at no charge to the user that has a speech synthesis program.

Speech can be heard either through the TV speaker (if it is capable of letting the sound through) or an external amplifier through the MIC jack of your computer. I found that the newer the TV is the greater the probability of you having to use an external amplifier speaker. I recommend that you use the RADIO SHACK amplifier (#277-1008) which will cost \$11.95 and a mono to dual mono adapter which you can plug into your cassette recorder. In this way you will not have to unhook your recorder, but simply insert your MIC cable from the computer into the adapter along with the cable from your amplifier. This leaves you from putting unnecessary wear on your cables and connections.

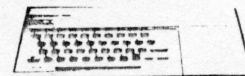
For those that like the idea of having 272 words able to be said, this is definitely a package for those who want to expand their capabilities and vocal horizons.

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REVIEW: Textwriter 1000
by Peter Stawasz

DESCRIPTION: A word processing program.

AUTHOR: Robert Fingerle.

DISTRIBUTOR:

Curry Computers
5344 West Banff Lane
Glendale, AZ 85306
1-602-978-2902

AVAILABILITY: From Curry Computers or from major software dealers.

REQUIREMENTS: ZX81, TS1000 with 16K; TS1500--all of the above with the TS2040 printer or equivalent printer.

SUGGESTED RETAIL: \$11.95

Upon loading the program auto-runs and you are faced with the menu. Five choices subdivided into 2 categories. The first category gives you the choice of beginning a file, displaying the current file, and saving a file. The second category gives you two choices of printing your file in double or single spacing.

The type mode gives you the power of the more expensive competitors computers, giving the user eight features to get the most of his or her dollar. A luxurious feature is the wraparound. If a word you happen to be typing runs over into the margin on the right the computer automaticall redisplayes the word on the next line of text. If you would rather hyphenate, simply use "Function" (shifted ENTER) and if there are no tabs set this will feed one line leaving the cursor at the beginning of the next line. Other features include using keys 5-8 as cursor keys to get anywhere on the text, using ENTER as a space key, DELETE to backspace and remove mistakes, STEP to set/clear tabs, FAST a sort of speedy fast foward search to proofread and check for errors, STOP to return to the menu and EDIT to change to editing mode.

Once in the edit mode you have six choices:

AC(Add Character spaces) which will add a specific number of spaces to the text from the cursor position.

AL(Add Lines) which adds a specified number of lines from the cursor position.

DL(Delete Lines).

C(Condense text) which removes any unwanted spaces from the text from the end of the gap to the cursor position.

MM(Memory Map) a memory storage for a specified number of lines upto 145 in memory for later use.

MP(Memory map Print) prints the contents of the memory map to the cursor line.

Restrictions on a file are you can only have up to 290 lines in a file and a MM file can be up to 145 lines.

A thoughtful printing feature is that after 74 lines of text spaces are printed so if you wish you can paste two columns on an 8 1/2" by 11" paper.

This program is a definite must and is par excellance in the field of word processors. With its self-explanatory manual and clear-cut visual examples and even a printout of the program itself this is really a great show of the power of the TS1000 computer!

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REVIEW: TS1000 Supertape
by Peter Stawasz

DESCRIPTION: Collection of programs ranging from serious applications to games.

MANUFACTURER:

JRC Software
PO Box 448
Scottsburg, IN 47170

AVAILABLE: Directly from JRC Software or from many software dealers.

REQUIREMENTS: ZX81, TS1000, each with 16K; or TS1500--printer is optional.

SUGGESTED RETAIL: \$24.95

Supertape is a collection of programs specifically designed for the TS1000 computer. The tape is analogous to a magazine printed onto a cassette tape. Here is a brief description of each of the forty five programs as they are arranged on the cassette:

1. Program Name Reader: reads the name of the program, optional to screen or to a printer. A neat program for those of us who sometimes forget the name of a program. Also handy for setting a level of volume.
2. Loading Tip: a program that PRINTs a hint to turn the volume full up.
3. FLASH: PRINTs asterisks to the screen in a random pattern after flashing them in place.
4. Bonus: shows you how to put a specific Machine Language routine in a REM statement and how to use the printer code in fast mode.
5. Weird: a program that is capable of actuating the O/O report code, this is all the program does.
6. 3D Plane: uses the TS1000's graphics to display an example of a topographic grid on the screen.
7. Self-List: a program that reproduces itself by LISTing or by RUNning.
8. Character Set Bandana: prints the entire character set on the screen but jazzes it up by covering the characters in high-resolution graphics alternating back and forth between normal and graphics type.
9. 1K Text: a bare-bones text editor that uses REM statements to store text and the BASIC editor to edit text. Can be used with a printer.
10. Tape Unlocker: program that allows you to make duplicates of commercial programs as well as list them.
11. Standard MC Loader: a professional/expert level machine code loader of good quality(not for beginners).
12. Beep and Phasor: a sound effects generator that generates only beeps and phasor sounds at given frequencies and duration levels that you input.
13. Try This & 14. Just For Fun: both programs that experiment with little known programming tips for you to see what happens when you do.
15. Sines: program that PLOTs sine curves. Either one built into the program or one you input.
16. LOGO: program that uses LOGO to display and draw polygons, squares, etc. LOGO is converted for use with the TS1000.
17. PacM: moves an animated pac-man accross the screen.
18. 68 Lines & 19. Flower: programs that use low-res graphics to create an intricate flower design which can be created in FAST or SLOW mode.
20. Etchsketch: a drawing program that allows you to draw in eight directions plus CLS, erase mode and SAVEing of your drawings.

21. **Speedlander:** a graphics game in which you try to land on a surface using the RETURN key to turn on/off thrust, like Lunar Lander.
22. **Dodge:** a graphic game in which you dodge obstacles. Displays the top ten scores.
23. **Keygame** & 24. **Touch-Type:** programs that teach you how to use the keyboard through the use of drills.
25. **Statistics:** figures the average of a group of numbers, as well as giving you the deviation and the number of samples to give an accurate sampling.
26. **Slope:** program that figures the slope of a line when you input a number of x,y coordinates.
27. **FN Plot:** plots sines, tangents, simpler than Super FN Plot (#29).
28. **Niche:** measures set variance in biology, which expresses variance in terms of breadth and width.
29. **Super FN Plot:** a more complex version of FN Plot.
30. & 31. **Extensions To BASIC:** duo of programs that add five new commands to BASIC: READ, DATA, RESTORE, INVERSE, and FREE MEMORY.
32. **Multiple Programs in Memory:** allows you to have 2 to 48 programs in memory at the same time (depending on the size of your RAM) each 1K or more. Similar to a bank-switching system.
33. **Printer Hi-Res:** prints an intricate design using the Hi-Res capability of the printer.
34. & 35. **Magazines:** a REM listing of neat programming hints and thoughts.
36. **Cubic Maze:** a unique program that uses a clearing character which you control with somewhat random movement to clear the screen of all its squares.
37. **Dragon's Death:** a game in which you, as the warrior, must rescue the princess from a castle that is laden with invisible traps.
38. **Oscilloscope:** displays a moving 3D image which is truly a sight to see as it rotates in a circle. You have the option of creating your own oscilloscope wave images.
39. **16K Tape Utility:** saves everything between RAMTOP and the top of 16K, as well as load anything previously saved.
40. **16K Assembler:** changes any number to base 10 as well as assembles machine code.
41. & 42. **TEXT 2, 3:** very high quality word processors that have character, word, paragraph recall/deletion, page numbering, paragraph indention, centering and more. Rivals TEXTWRITER in its functions, some even better! Text 2,3 has optional LOWER CASE printing to the printer which is very legible and finally a much needed exclamation point!!!
43. **Timex/Sinclair 1000:** prints to the screen a facsimile of the TS1000 using graphics.
44. **JRC Poster:** prints an intricate 22 foot long poster from the printer in graphics.
45. **Printer Hi-Res:** prints a candle like pattern to the printer using hi-res graphics.

All in all this is an excellent tape with something for everyone. At fifty-one cents a program who could ask for more?

USER GROUPS

(Groups that have contacted QTS)

CALIFORNIA:

West L. A. Sinclair Timex Club
PO Box 34545
Los Angeles, CA 90034
(213)201-2014

East Bay Z80 User Group (EBZUG)
654 40th St
Richmond, CA 94805
(415)234-3310 or 531-6566

Peninsula User Group (PUG)
263 Gateway No. 107
Pacifica, CA 94044
(415)359-3198 or 333-2231

Silicon Valley S/T User Group
PO Box 4133
Santa Clara, CA 95054
(408)738-2888 x4579

Timex Users Group
1624 Loughborough
Merced, CA 95348
(209)383-2464

COLORADO:

Timex Sinclair Users Group
Mile High Chapter
914 S. Victor Way
Aurora, CO 80012

FLORIDA:

NE Florida T/S Users Group
1707 King St
Jacksonville, FL 32204

TAS BAM Users' Group, Inc.
PO Box 644
Safety Harbor, FL 33572

Gainesville TUG
3224 Northwest 30th Ave
Gainesville, FL 32605
(904)378-9000

MARYLAND:

Capitol Area T/S Users Group
PO Box 725
Bladensburg, MD 20710

MASSACHUSETTS:

Sinclair-Timex Users Group
Boston Computer Society
284 Great Road Apt D-5
Acton, MA 01720

NEVADA:

T/S User Group of
Las Vegas
2405 Howard Dr
Las Vegas, NV

NEW YORK:

Long Island Sinclair Timex
PO Box 438
Centerport, NY 11721

T/S User Club of
Western New York
188 St. Felix Ave
Cheektowanga, NY 14227

NORTH CAROLINA:

Triangle Sinclair UG
c/o Doug Dewey
206 James St
Carrboro, NC 27510

OREGON:

Clackamas County T/S Users Group
1419 1/2 7th St
Oregon City, OR 97045

PENNSYLVANIA:

Pittsburgh Area Computer Club
Timex Sinclair User Group
c/o Ed Mihalo
152 Deerfield Dr
Pittsburgh, PA 15235

Canonsburg's Color Computer Club
Timex Sinclair Group
c/o R J Vasko
One Virginia Dr
Donora, PA 15033

Central Penn TS Computer UG
c/o Robert Neil
1525 N. Ashwicken Ct
State College, PA 16801

TEXAS:

T/SUG of Fort Worth, Texas
David Baulch
4424 Geddes Ave
Fort Worth, TX 76107

Abilene TSUG
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c/o R. Mulder

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MEXICAN 2068 USERS: Let's start a users group. Write to German Valero, Mariano Azuela 255, Santa Maria la Ribera, Mexico D. F. 06400. Specify areas of interest and level of proficiency in BASIC or Z-80 programming.

NEED HELP: Built Joystick interface from plans published in Times sinclair User Magazine Vol 1, #6 cannot get it to work properly. Any help would be appreciated. M. Robben, Box 476, Elk City, OK 73648.

FOR SALE: TS1000 software and hardware including AERCO disk drive interface, Memotech centronics interface, Independent Research 64K memory, Memtext EPROM word processor, Memotech Hi-Res Graphics. TS1000 system down - now using TS2068. SASE to John Bailey, 112 Huey St, Enterprise, AL 36330 for software titles, (205)347-9162 for availability of hardware.

WANT A PROGRAM for your TS2068 that calculates, stores and lists gas mileage statistics? Taswide must be loaded first. Send check or M.O. for \$6.00 for tape and S&H to J. Kelly, 473 E 15th St, Hialeah, FL 33010.



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MIERM II Software TS2068->\$27.95 A more complex program than what comes with the Westridge modem above. It allows uploading and downloading among other features.

A good manual for the MIERM II Software is available for \$6.95 from: Barry Carter, Box 614, Warren, MI 48090. This manual gives a better explanation of this powerful software package than the manual which comes with the software. A must if you want to experience the full power of MIERM II!

MScript TS2068->\$22.95 A word processor for the TS2068 and a full sized printer. Built in 64 column display mode. MScript has the codes for the AERCO and TASMAR Centronics interfaces built in. Comes with 84 page manual and a quick reference card. A very powerful word processing system!

Machine Code Tutor TS2068->\$15.95 These programs will help you to learn machine language. Machine Code Tutor consists of 33 lessons on two cassettes (loaded in four parts). The instructions include actual examples and exercises to enable anyone with some knowledge of Basic to learn machine code. The manual is formatted along the lines of the programs on the tapes.

Blank Cassettes C20 (10 minutes per side) 10 for \$9.50 25 for \$20.00

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These cassettes are of the best quality available for use with computers. The price above includes a plastic case and two labels with each cassette.

The Dealer's Den (by T. Kessler) TS2068->\$19.95 C64->\$19.95(cass or disk)

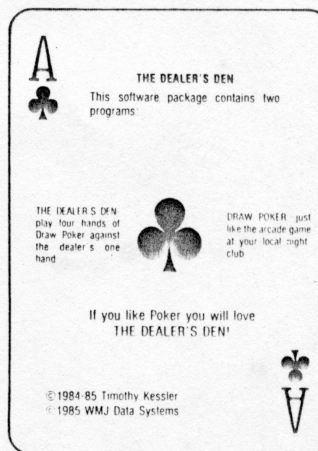
If you love to play poker than this is the software package for you! This package contains two programs, as follows:

The Dealer's Den

In this program, the player has four hands and the dealer has one. Play Draw Poker one hand at a time. After you play your four hands the dealer shows you his cards and then decides which to throwaway. The dealer remembers every card that has been drawn and will draw to the best possible hand. Can be played by one to four players.

Draw Poker

This program is comparable to the arcade game that you might see at your local nightclub. Double-High graphics, color, and user-friendly prompts, all add up to a program that is easy to look at and fun to play. This program is for one player.



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